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NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 15824-2008

Replacing GB/T 15824-1995

Thermal fatigue testing method for hot die steel

热作模具钢热疲劳试验方法

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Foreword

This standard replaces GB/T 15824-1995 "die steel thermal fatigue test method for hot." This standard and GB/T 15824-1995 compared to the main changes are as follows:

--- Deleted certain criteria are not involved or universal symbolic terms;

--- Test equipment and the corresponding block diagram of principle and made appropriate changes;

--- Thermal fatigue level maps do computer optimization;

--- Added some terminology entries. This standard by the National Standardization Technical Committee mold (SAC/TC33) and focal points. This standard was drafted. Beijing Institute of Electrical, Mechanical Science Research Institute of Advanced Manufacturing Technology Research Center. The main drafters of this standard. WU Bing, Jiang Chao. This standard replaces the standards previously issued as follows:

--- GB/T 15824-1995. Thermal Fatigue Test methods for hot work die steel

1 Scope

GB/T 15824-2008 is the Chinese national standard on thermal fatigue testing method for hot die steel, in the field of metallurgy. The /T suffix marks it as a recommended standard: it is not compulsory by itself, but it becomes binding as soon as a contract, a tender or a customer specification calls it up - which in practice is how most foreign buyers meet it. It was issued on 6 June 2008 by the General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China; Standardization Administration of China, and has been in force since 1 January 2009. Classification: ICS 77.040.30, CCS J46. This page is published from the official record of the standard held by the Chinese standards administration: the identification, the dates, the classification and the issuing body are taken from there. The clause text, the tables and the numeric limits are in the document itself, which is delivered complete in English translation.

This standard specifies the hot work die steel thermal fatigue test methods symbols and terminology, and the sample preparation, test equipment, test procedure, heat Atlas fatigue

level and data processing, the content of the test report. This standard applies to the determination of hot work die steel thermal fatigue resistance. Materials development, mechanical design, process and quality control, product performance And failure analysis may refer to this standard.

2 Tmin (T1) minimum temperature °C lower limit temperature test

3 Ts surface temperature of the test surface temperature °C Center portion temperature °C

4 Tc core part test temperature 5 Deltadeltat real total strain range In the first cycle, the algebraic difference between the maximum and minimum true strain Deltaepsilon = alpha (Tmax-Tmin) The yield strength of the test material under 6 sigma

1 Tmin at a minimum temperature Tmin yield strength Pa The yield strength of the test material 7 sigma

2 Tmax under at the upper limit temperature Tmax yield strength Pa Modulus of elasticity of the test material under 8 E

1 Tmin at a minimum temperature Tmin elastic modulus GPa Modulus of elasticity of the material under 9 E

2 Tmax at the upper limit temperature Tmax of the modulus of elasticity GPa Poisson 10 μ

1 Tmin lower than the test material at the minimum temperature Tmin Poisson's ratio Poisson's ratio of under 11 μ

2 Tmax test material at the upper limit temperature Tmax Poisson's ratio 13 P surface power high-frequency heating equipment for heating the sample surface power W 14 R Radius mm specimen 16 DeltaTau temperature difference between the surface temperature difference DeltaT and the temperature of the core section = Ts-Tc °C

3 Symbols and Terminology

3.1 symbols, terms shown in Table 1. Table 1 hot die steel thermal fatigue test Symbol Term No. Symbol Definition Unit